

ABSTRACT

The exposure apparatus comprises a mark plate on which a plurality of types of measurement marks each used for self-measurement are formed, a reticle stage on which the mark plate is mounted, and an aerial image measurement unit. On a slit plate of the aerial image measurement unit, a slit is formed extending in the non-scanning direction which width in the measurement direction is equal to and under (wavelength λ /numerical aperture N.A of the projection optical system). Therefore, in a state where a predetermined pattern is illuminated with the illumination light to form an aerial image of the pattern via the projection optical system, and when the slit plate is scanned in the measurement direction with respect to the aerial image, the light having passed through the slit during the scanning is photo-electrically converted with the photoelectric conversion element. And, based on the photoelectric conversion signal, the control unit measures the light intensity corresponding to the aerial image with a sufficiently high accuracy in practical usage. In addition, various self-measurements become possible, by moving the reticle stage so as to position the plurality of types of measurement marks respectively in the vicinity of a focal position on the object side of the projection optical system.